

AD-A115 631

UNITED STATES METRIC BOARD ARLINGTON VA  
PROVIDING A METRIC OPTION. CAN LAWS AND REGULATIONS BE AMENDED --ETC(U)  
DEC 79

F/G 5/4

DEC 79

NL

UNCLASSIFIED

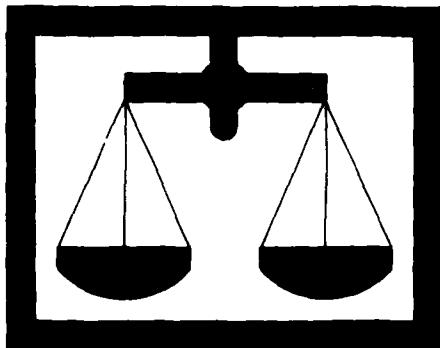
| DF |  
AP-A  
115031

UNITED STATES METRIC BOARD  
ARLINGTON VA  
PROVIDING A METRIC OPTION. CAN LAWS AND REGULATIONS BE AMENDED --ETC(U)  
DEC 79

END  
DATE  
FILED  
7-B2  
DTIC

Report to the President and the  
Congress of the United States

(12)

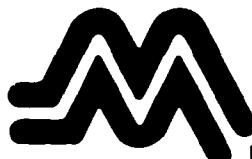


# PROVIDING A METRIC OPTION

Can Laws and Regulations  
be amended  
in a timely manner?

DTIC FILE COPY

AD A115631



UNITED STATES METRIC BOARD  
DECEMBER, 1979

DTIC  
SELECTED  
JUN 14 1982  
S D  
H

82 00 11 107

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER None	2. GOVT ACCESSION NO. <i>AD-A115-63</i>	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) PROVIDING A METRIC OPTION. Can Laws and Regulations be amended in a timely manner		5. TYPE OF REPORT & PERIOD COVERED Research Summary
7. AUTHOR(s) Not applicable	6. PERFORMING ORG. REPORT NUMBER None	
8. PERFORMING ORGANIZATION NAME AND ADDRESS United States Metric Board 1600 Wilson Blvd., Suite 400 Arlington, Va. 22209		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS None
11. CONTROLLING OFFICE NAME AND ADDRESS Office of Research, Office of Research, Coordination and Planning, U.S. Metric Board, 1600 Wilson Blvd. Suite 400, Arlington, Va. 22209		12. REPORT DATE December 1979
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) Same		13. NUMBER OF PAGES 23
16. DISTRIBUTION STATEMENT (of this Report) Unlimited		15. SECURITY CLASS. (of this report) Unclassified
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) Unlimited		
18. SUPPLEMENTARY NOTES None		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Metrication, Laws, Regulation Metric Units, Statutes, Metric Conversion,		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report presents the results of the United States Metric Board report to the Congress on the need to provide an effective structural mechanism for converting customer units to metric units in statutes, regulations and other laws at all levels of government in response to voluntary conversion programs. Based upon data it has collected, the United States Metric Board concluded that there is no present need for Congress to provide a new (continued on back page)		

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

structural mechanism. The Board's present reliance on the effectiveness of available change mechanisms is predicated on its findings that:

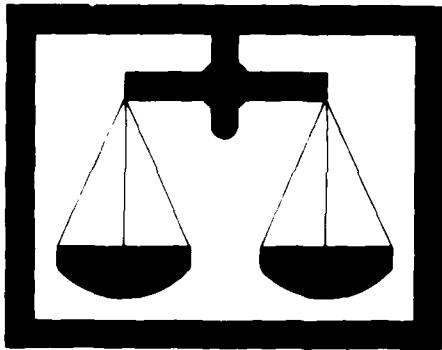
- existing laws and regulations at all levels of government do not constitute a significant legal barriers to voluntary conversion efforts,
- not all legal references to customary units will require change,
- most of the required legal changes can be accommodated through administrative rulemaking rather than legislative action,
- voluntary conversion activity currently underway is not yet of sufficient magnitude to strain the effectiveness of available mechanisms. However, the Board cannot report, at this time, if voluntary conversion activity is being unduly inhibited by perceived legal barriers and perceived limitations of available change mechanisms.

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

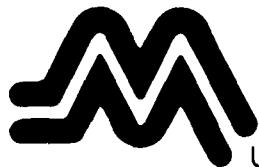
Report to the President and the  
Congress of the United States

12



# PROVIDING A METRIC OPTION

Can Laws and Regulations  
be amended  
in a timely manner?



UNITED STATES METRIC BOARD  
DECEMBER, 1979

DTIC  
SELECTED  
JUN 14 1982  
D



Public Law 94-168  
94th Congress, H. R. 8674  
December 23, 1975

## An Act

To declare a national policy of coordinating the increasing use of the metric system in the United States, and to establish a United States Metric Board to coordinate the voluntary conversion to the metric system.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Metric Conversion Act of 1975".*

SEC. 2. The Congress finds as follows:

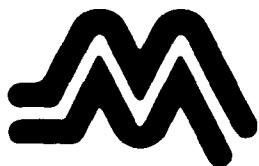
(1) The United States was an original signatory party to the 1875 Treaty of the Meter (20 Stat. 709), which established the General Conference of Weights and Measures, the International Committee of Weights and Measures and the International Bureau of Weights and Measures.

(2) Although the use of metric measurement standards in the United States has been authorized by law since 1866 (Act of July 28, 1866; 14 Stat. 339), this Nation today is the only industrially developed nation which has not established a national policy of committing itself and taking steps to facilitate conversion to the metric system.

SEC. 3. It is therefore declared that the policy of the United States shall be to coordinate and plan the increasing use of the metric system in the United States and to establish a United States Metric Board to coordinate the voluntary conversion to the metric system.

SEC. 6. It shall be the function of the Board to devise and carry out a broad program of planning, coordination, and public education, consistent with other national policy and interests, with the aim of implementing the policy set forth in this Act. In carrying out this program, the Board shall—

(11) submit to the Congress and to the President, not later than 1 year after the date of enactment of the Act making appropriations for carrying out this Act, a report on the need to provide an effective structural mechanism for converting customary units to metric units in statutes, regulations, and other laws at all levels of government, on a coordinated and timely basis, in response to voluntary conversion programs adopted and implemented by various sectors of society under the auspices and with the approval of the Board. If the Board determines that such a need exists, such report shall include recommendations as to appropriate and effective means for establishing and implementing such a mechanism.



## UNITED STATES METRIC BOARD

Suite 600  
1815 North Lynn Street  
Arlington, Virginia 22209

THE PRESIDENT OF THE UNITED STATES  
THE HONORABLE PRESIDENT OF THE SENATE  
THE HONORABLE SPEAKER OF THE HOUSE OF REPRESENTATIVES

Sirs:

I have the honor to transmit to you the Report of the United States Metric Board on the need to provide an effective structural mechanism for converting customary units to metric units in statutes, regulations and other laws at all levels of government.

Based upon data it has collected, the United States Metric Board concludes that there is no *present* need for Congress to provide a new structural mechanism. The Board's present reliance on the effectiveness of available change mechanisms is predicted on its findings that:

- existing laws and regulations at all levels of government do not constitute a significant legal barrier to voluntary conversion efforts.
- not all legal references to customary units will require change.
- most of the required legal changes can be accommodated through administrative rule-making rather than legislative action.
- voluntary conversion activity currently underway is not yet of sufficient magnitude to strain the effectiveness of available mechanisms. However, the Board cannot report, at this time, if voluntary conversion activity is being unduly inhibited by *perceived* legal barriers and *perceived* limitations of available change mechanisms.

The United States Metric Board will continue to study this issue and, when appropriate, will transmit additional findings and recommendations in its Annual Report.

Sincerely,

Louis F. Polk  
Chairman



Accession For	NTIS GRAFT
DTIC TIR	Unanswered
Justification	<input checked="" type="checkbox"/>
By	
Distribution/	
Availability Codes	Avail and/or
Dist	Special

## TABLE OF CONTENTS

	<i>Page</i>
<b>Chapter One: Perspective</b>	
A. The Problem .....	1
B. Scope of United States Metric Board Study .....	1
<b>Chapter Two: Legislative and Regulatory Environment</b>	
A. Overview .....	3
B. Legal Impediments .....	3
C. Nature of Imbedded Units.....	5
<b>Chapter Three: Extent of Voluntary Conversion Activity in Private Sector</b>	
A. Larger Corporations .....	9
B. Small Business.....	9
C. Research Activity .....	9
<b>Chapter Four: Public Sector Activity</b>	
A. Federal Activity .....	11
B. State Activity .....	11
C. Existing Mechanisms for Uniformity.....	12
D. Coordinating Role of United States Metric Board .....	12

## CHAPTER ONE

### Perspective

#### A. The Problem

The relationship of government to proposed metric conversion programs is of great importance. To enable a metric conversion plan to be successfully implemented, it may be necessary for government to enact new laws or to amend existing laws.

Congress has asked the United States Metric Board to report on the "need to establish an *effective mechanism to convert customary units to metric units in laws and regulations at all levels of Government on a coordinated and timely basis in response to voluntary conversion programs adopted and implemented by various sectors of society....*" (P.L. 94-168, Emphasis added.) As pointed out in Chapter Two, mechanisms to change laws exist at all levels of government and can be used to permit the use of metric units as well as customary units. Thus, the problem addressed is: "Are the current change mechanisms, available to permit the voluntary use of metric units, effective?"

As contained in the charge of the Congress, the test of effectiveness is whether these mechanisms will in fact accommodate voluntary conversion programs "on a coordinated and timely basis." The effectiveness of the current mechanisms in terms of "coordinated and timely" rests on three factors:

- Whether current laws and regulations constitute a legal barrier to voluntary metric conversion activities,
- How many laws and regulations need to be changed, and
- The extent of voluntary conversion activity.

#### B. Scope of United States Metric Board Study

The Board let a contract with Middlesex Research Center, Inc. to assist in data collection for this report. The contractor submitted a final report to the Board, copies of which are available upon request under separate cover. It should be noted that some of the conclusions reached by Middlesex Research Center were not concurred in by the Board. The contractor concluded that "(w)hile no legal barriers to metric units exist, the need for an effective change mechanism still exists. If the thousands of legal deterrents that exist at all levels of governmental law and regulations are left to be changed on an individual basis, they represent a significant potential impediment to the voluntary conversion program as defined by PL 94-168... an effective change mechanism must be established to remove legal deterrents as the sector conversion programs are initiated."

The requirement to study legislative and regulatory issues at "all levels of government" dictated judicious use of resources so that meaningful and usable study results could be produced with an expenditure of reasonable research efforts. To accommodate this requirement of the study, a selected number of federal agencies were reviewed in depth. Contact was established with all states and territories, and a representative number of municipal governments. To determine the current status of the voluntary conversion efforts of various industrial sectors, the American National Metric Council sector committees were contacted. The contractor was also assisted by a Legal Review Panel composed of lawyers and representatives from municipal and state government.

The members of the Legal Advisory Panel who interacted with the study team were:

**Carl A. Auerbach**, Esquire—Dean of the University of Minnesota Law School. Dean Auerbach has also served for many years on the Administrative Conference of the United States.

**Patricia M. Fullinwider**—Chief Administrator, Division of Weights and Measures, Arizona Department of Administration. Ms. Fullinwider is responsible for planning, organizing, and directing Arizona's weights and measures enforcement program.

**Norma Paulus**—Secretary of State, State of Oregon. Formerly a member of the Oregon state legislature, Ms. Paulus is very knowledgeable in state legislative processes and in the administration of state regulations.

**J. Phillip Richley**—Mayor, City of Youngstown, Ohio. Formerly the Director of Ohio's Department of Transportation, Mayor Richley was responsible for pilot projects instituted in Ohio to design and implement highway construction projects using metric measurement units.

**William E. Zeiter**, Esquire—Morgan, Lewis, and Bockius, Philadelphia, Pennsylvania. Mr. Zeiter is a recognized expert on the legal implications of metric change in the United States. He is the Chairman of the Committee on Metric System in Commercial Transactions, Section of Corporation Banking and Business Law, American Bar Association; and Recorder, National Conference of Commissioners on Uniform State Laws—Uniform Metric System Procedures Act.

The Panel provided the Board with a good blend of legal expertise and practical experience in the legislative and administrative rulemaking processes at all levels of government.

## CHAPTER TWO

### Legislative and Regulatory Environment

#### A. Overview

The United States legislative structure is derived from the powers defined by the Constitution of the United States and the constitutions of the individual states. Additional elements of the United States legislative structure include federal statutes, state statutes, and municipal ordinances. In addition, an extensive array of regulations has been developed at the federal level and many state rules have been developed within the state structures.

The laws that Congress enacts are codified and organized for general use in the United States Code. The Code is structured in 50 titles that originally addressed individual topics or sectors of the economy. Over the years, as the complexities of industry and government grew, the content of individual titles within the United States Code also expanded. For the most part, each Code title now addresses a multitude of industries, and is administered or regulated by a number of federal agencies.

Every federal agency promulgates appropriate regulations and rules governing the particular industries or subjects for which they have responsibility. These rules and regulations are codified in 50 titles under the Code of Federal Regulations (CFR). While some similarities exist between the structure of the CFR and the United States Code, they are not organized on a one-to-one basis. The legislative and regulatory processes at the federal level are well defined and operate in a routine manner to provide for changes in both legislation and regulations.

The legislative process in each of the 50 states is similar to the federal process. The legislatures enact statutes dealing with a variety of topics which, in turn, are codified for general usage. The state administrative agencies then issue rules and regulations addressing specific aspects of various activities.

Municipalities typically enact ordinances and, in some cases, establish rules and regulations interpreting these ordinances in a process similar to that at the state level. Such procedures may involve city councils, county boards, mayors, city managers and other officials. Depending on the nature of the municipality, its ordinances may exist in very informal books bound chronologically or they may be codified and organized by subject for the general use of the public.

#### B. Legal Impediments

Throughout the past eight years, much has been said regarding the extent to which laws and regulations deter or prohibit the use of metric units. Many industry authorities have claimed that various federal and state laws prohibit them from using metric units or metric sizes. These laws have often been cited as causing delays in the voluntary conversion process. Since the need for a structural mechanism depends largely on the *degree* of actual delay or prohibition incurred, the following three criteria were established, at the outset, to assist in evaluating the need:

- **Legal Barriers:** A legal barrier exists when a law or regulation prohibits the use of metric units or metric sizes.

Example: "All retail gasoline sales shall be in units of gallons or tenths of a gallon and such sales shall not be in other units such as liters or quarts."

- **Legal Deterrents:** A legal deterrent exists when a law or regulation makes it costly, cumbersome or difficult to use metric units or metric sizes.

Example: "All retailers, distributors, and wholesalers shall report monthly the volume of gasoline products sold. Such reports shall indicate volume in gallon and tax due calculated at 8.3 cents per gallon."

- **Legal Nuisances:** A legal nuisance exists when a law or regulation hampers the use of metric units or metric sizes.

Example: "Any person selling at retail to the general public, any gasoline or other motor vehicle fuel from any place of business in this state, showing the actual total price per liter, shall, in addition, display in a conspicuous fashion in full view of the retail purchaser a gallon-to-liter conversion table showing quantity and price equivalents."

Analysis of the nature of measurement units as they are imbedded in laws and regulations indicates that generally legal barriers, as defined above, do not exist. However, there are many cases where measurement units imbedded in laws and regulations appear, superficially, to present legal barriers to the use of metric units or to the introduction of metric sizes.

One example of this condition is the Fair Packaging and Labeling Act (FPLA), P.L. 89-755 (15 USC 1451 and 16 CFR Part 500), which is viewed by many as a barrier to the introduction of metric-sized consumer products. This federal law has also been enacted by various states; thus, a version of the FPLA exists not only at the federal level, but also in many state laws. A detailed analysis of the FPLA indicates that it does not prevent the introduction of metric packages in consumer products. It does require that such packages, whether they be in even metric sizes (such as 500 grams) or otherwise, be labeled both in customary units and in metric units. Thus, it is our opinion that the Fair Packaging and Labeling Act constitutes a legal deterrent in that it requires metric-sized packages to be dual labeled, while not requiring the reverse for customary measurement packaging, but it in no way prohibits or bars the introduction of metric products in the marketplace.

A second example of apparent legal barriers is in the method-of-sale laws enacted by many states. These laws originated as a means of protecting the consumer against pricing deception by standardizing the sizes of consumer products; typically, dairy products, meat products and other basic food stuffs. The nature of these laws is to state that the sale of certain products will be in uniform sizes, such as pints, half pints, quarts or gallons.

While this appears to be a legal barrier to the introduction of metric sizes, the Legal Advisory Panel and other study advisors indicate that because these laws are moot on the issue of metric sizes, they do not prohibit the introduction of rational metric sizes in the market place. By virtue of not addressing the issue of metric sizes, these laws do not present legal barriers to the introduction of metric sizes. This opinion was recently verified when the United States Metric Board, through the National Bureau of Standards, conducted a telephone survey regarding the legality of selling gasoline by the liter in the states. The results of the surveys indicated that eight states considered the sale of gasoline by the liter to be potentially unlawful.

The Legal Advisory Panel concluded that method of sale laws do not present legal barriers to the introduction of metric sizes. This opinion appears to be supported by current Department of Justice thinking that any state law which tends to limit the sizes of products available to consumers could be construed to be anticompetitive.

In 1866, Congress enacted legislation that made it legal to use the metric system for the transaction of business in the United States: "It shall be lawful throughout the United States of America to employ the weights and measures of the metric system; and no contract or dealing, or pleading in any court, shall be deemed invalid or liable to objection because the weights or measures expressed or referred to therein are weights or measures of the metric system" (15 USC 204). Thus, any state law which requires the exclusive use of customary units of measurement could be challenged as contravening this federal statute.

### C. Nature of Imbedded Units

The analysis shows that there are extensive references to existing customary measurement units throughout federal, state and municipal laws and regulations that are imbedded in context in such a way that they fall in the previously defined categories of legal deterrents of nuisances. Computer searches of representative laws have provided an indication of the magnitude of these references. For example, there are approximately 6,700 references to customary measurement units in the United States Code. In various state laws, the number of references to customary units ranges from 1,000 to 3,000 citations per state. The nature of these measurement references varies from general references, using terms such as mileage or acreage; to very specific uses for defining tax rates, such as 15 cents per gallon; to the establishment of safety limits, such as 55 miles per hour. Since the context of the measurement unit would determine the extent to which it is a cause of legal delay or prohibition, the use of each term was tabulated according to six standardized categories. These are defined as follows:

- **General:** Use of the term is in a non-measurement sense, such as the use of acreage as an identifier of "area of land" with no quantification. Use of the term as an unquantified but quantifiable unit, such as "mileage allowance shall be similar to..."
- **Rate:** In such usage the term is part of a fraction (usually the denominator), where it is a base reference unit for some other quantifiable unit, such as "cents per mile."
- **Tax:** Such categorization is more specific than "Rate" in that it is the basis on which a tax, fee, payment or the like is levied; for example, "\$2.00 per barrel or 25 cents per ton."
- **Standard:** The particular word (or words) are a specific designation of a standard measurement quantity, such as "a container of 56 pounds."
- **Limit:** Use of the term is to categorize quantities in terms of maxima and minima, such as "55 miles per hour," "over 40 feet in length."
- **Legal Description:** Use of the unit as a legal description of a land area, such as federal or state parks, state boundaries and other description.

In analyzing the nature of imbedded customary units, the categories defined as General and Legal Description will not have to be changed in order to accommodate metric units. All citations of a general use, such as mileage or acreage, which do not have a quantifiable numeric value associated with them need not be changed, although at some point in the future, general references might be changed as a matter of housekeeping. Legal Descriptions of land need not be changed merely for the sake of change. At some point in the future, new surveys of land descriptions may be written using metric units; however, these will not impact all of the legal descriptions imbedded in federal and state legislature.

Approximately 50% of the 6,789 citations in the United States Code fall in the categories of General or Legal Description. A similar ratio applies to the representative state codes which were studied. When these two categories are subtracted from the overall volume of citations, fewer citations need to be changed. For the most part, the remaining "legal deterrents" fall under the categories of Tax Rate, Standard and Limit.

Many of the citations in the federal and state laws appear to be potential legal barriers and have often been reported as such by industry. However, closer examination revealed that while state method-of-sale laws, for example, may require the use of customary sizes, the same laws do not prohibit the use of metric units; nor is the legal intent to prohibit the use of metric sizes. Thus, it was felt by both the Legal Review Panel and Middlesex Research Center that none of these laws

could actually be used to prohibit the use of metric units. If tested in a court of law, they would most likely not be found to be legal barriers.

A larger number of references at all levels of governmental law and regulations are, however, legal deterrents. That is, they provide cumbersome situations which make it difficult to incorporate metric sizes or metric units. Additionally, many legal nuisances exist at all levels of government. However, by themselves these legal deterrents and nuisances do not constitute justification for a new structural mechanism.

Customary measurement units were tabulated both by type of unit (e.g., mile, foot, or acre) and by industry grouping, so as to determine what areas of federal and state codes contain most of the measurement units.

The customary units which most frequently appear in the United States are:

Unit	Frequency of Occurrence
• Acre(s)	2,436
• Mile(s)	1,221
• Foot (feet)	970
• Ton(s)	449
• Pound(s)	269
• Inch(es)	147
• Gallon(s)	110

When analyzed by industry sectors or Code topics, 90% of the citations are contained in the following ten sections of the Code. Moreover, as demonstrated below, over 60% of the citations are contained in Titles 16 and 7:

Code	Frequency of Occurrence
• Title 16—Conservation	2,263
• Title 7—Agriculture	1,470
• Title 43—Public Lands	595
• Title 33—Navigation	478
• Title 46—Shipping	439

Code	Frequency of Occurrence
• Title 26—Revenue	262
• Title 30—Minerals and Mining	256
• Title 15—Commerce	141
• Title 23—Highways	116
• Title 28—Judicial	112

At the state level, the Mississippi Code shows major industry groupings of measurement units, as follows:

Code	Frequency of Occurrence
• State and local government	919
• Motor vehicle code	310
• Petroleum and natural gas	277
• Agriculture	175
• Dairy products	92
• Lumber products	92
• Rail Industries	78
• Meat, fish and fowl	55
• Chemicals	55

At the municipal level, the Code of Lewiston City, Idaho, shows the following reference to measurements:

Code	Frequency of Occurrence
• Building codes, standards and zoning	191
• State and local government	149
• Advertising	65
• Surveying and mapping	35
• Motor vehicles	30
• Electrical goods	24
• Petroleum and natural gas	21

## CHAPTER THREE

### Extent of Voluntary Conversion Activity in Private Sector

#### A. Larger Corporations

The large multinational corporations (especially those in manufacturing) of American industry have shown more use of the metric system than other sectors of the economy. This is due primarily to perceived economic benefits which accrue to these companies because a large proportion of their manufacturing or trade is international in scope. Smaller companies are impacted by this increasing use of the metric system primarily because of their direct relationship to these large multinational corporations as contractors, suppliers, distributors and the like. It has been reported that half of the Fortune 500 companies are planning to increase the use of the metric system in their companies. Some, including IBM, General Motors and International Harvester, began using metric measurement in their operations more than five years ago.

The American National Metric Council (ANMC), formed in 1973, is a private, nonprofit organization dedicated to planning and coordinating voluntary metric conversion in the various sectors of the American economy. Their coordinating activities are being carried out by six coordinating committees, each of which is further divided into sector committees.

In past years, metric programs have focused primarily on the materials, construction and engineering industries, with some activity in selected food and grocery products and the educational and training categories. Various sector committees within the six functional areas have produced draft sector conversion plans. Some of these plans have identified tentative target dates for various sector conversion activities.

#### B. Small Business

Small business provides jobs for more than one-half of the private, non-agricultural workforce and contributes 43 percent of the Gross National Product. Small business comprises approximately 97 percent of all businesses in the United States; of the 10.6 million non-farm businesses in our nation, small business numbers approximately 10.3 million. Many of these businesses will be affected by increased metric usage, but many will not. To date a substantial number of small businesses are not using the metric system.

However, it would be shortsighted to assume that the increased use of metrics by the large multinational corporations will not impact the small business community in some way. In fact, it is only the rate and variations of impact which is unknown.

#### C. Research Activity

The United States Metric Board needs more definitive information regarding the extent to which the metric system is currently being used by firms representing a cross section of American industries. To begin to collect this information, the Board has let a contract to survey a sample of the top 1000 U.S. industrial firms as measured by total dollar sales. Information from sampled firms of the various industrial sectors of the United States is being obtained and will be used to assess the current use of the metric system. The report will attempt to ascertain timetables for conversions, coordination with other industries and coordination with government, as well as other relevant activities regarding increased metric usage.

Additionally, the United States Metric Board has entered into an agreement with the Department of Commerce to provide the Board with a study reflecting both an overview of American industry sectors relating to metric conversion and detailed data of their subsectors. Information will be organized by sectors of the economy and will relate to economic, technological, legislative, regulatory and other conditions useful in planning and evaluating sector conversion activities.

Because of the marketplace and labor force size, the Board is also investigating how metrication affects small businesses and the workforce. Due to the heterogeneity of the small business community and its lack of resources to keep pace with large multinational or large domestic corporations, the Board is *conducting research to determine the scope of opportunities, problems and issues confronting small business in metric conversion planning and the metric conversion process.* It is not known if small businesses have the representational mechanisms, financial capabilities, and procurement and technical experience viably to pursue opportunities of the voluntary metric conversion planning and implementation process if the pace and general pattern of such planning and increased metric usage is set by "larger" businesses. It is through this research activity that the Board will work to ascertain whether or not the present representational mechanisms are placing inequitable burdens on small businesses.

Increased metric usage will affect a large number of the approximately 90 million workers in the marketplace, including both blue collar and white collar workers. The degree will vary by occupation, industry and policies of individual firms. It is important that where metric conversion planning takes place, that considerations of the implications to measurement and dimensionally-sensitive occupations be taken into account. The Board is presently conducting a study to identify and analyze the effects of metric conversion on selected measurement and dimensionally-sensitive occupations. The Board is developing a future study design that will examine the impact which the increasing use of the metric system will have on the American consumer. The future study will seek to identify activities directed to consumers that have both positive and negative effects.

## CHAPTER FOUR

### Public Sector Activity

#### A. Federal Activity

In recent years various federal agencies have initiated metric conversion programs. Some agencies have initiated rather aggressive programs to change internal reporting, procurement requirements and external reporting to metric units in a logical fashion. A number of agencies have issued policy directives stating that their intent is to convert to metric when it is reasonable. Other agencies have initiated changes in various sections of the Code of Federal Regulations so as to reflect metric equivalents for measurement units. In some cases, these metric units are soft converted equivalents; in other cases, they are rationalized metric sizes.

In the early phases of our study, both Middlesex Research Center and the United States Metric Board contacted 36 federal agencies to determine the status of their metric conversion planning. A summary of these responses shows that 13 of these agencies have actually issued metric conversion policies and another five agencies have draft policies under development.

The Interagency Committee on Standards Policy (ICSP) established a Metrcation Subcommittee in June 1975 because of increasing metrcation activities within federal agencies and because a national metric conversion act appeared to be imminent. The original purposes of the Metrcation Subcommittee were to:

- facilitate an exchange of information on metrcation,
- assist joint federal agency metrcation efforts,
- provide liaison and interface between governmental and private sector standards organizations concerning metrcation, and
- provide guidance in the implementation and use of the metric system.

In 1976, following a recommendation by the Metrcation Subcommittee of the ICSP, the Secretary of Commerce sought to establish a high-level Interagency Committee on Metric Policy (ICMP). The United States Metric Board followed through on this initiative and in October 1978, the ICMP was established to advise the Board and the heads of federal departments and agencies. The purpose of the ICMP is to coordinate and provide policy guidance regarding U.S. Executive Branch efforts to coordinate metric conversion activities and to serve as liaison to the United States Metric Board. This Committee, by consensus, developed a metric conversion policy for federal agencies and is completing the adoption of implementing guidelines.

#### B. State Activity

Thirteen states have had or currently have a metric planning or coordinating committee officially established by Executive Order or legislative action within the state organization. At the request of the United States Metric Board, most of the state Governors have appointed a senior representative to coordinate state metric conversion activities. These contacts range from representatives within the Governor's office to representatives within the Departments of Agriculture, Weights and Measures, or Education. One state, Florida, has developed a comprehensive metric conversion plan which was recently presented to the Governor and the state legislature. A second state, New York, has aggressively planned metric conversion activities over the past two years, and recently enacted metric legislation in the weights and measures areas.

### C. Existing Mechanisms for Uniformity

The 50 states operating autonomously have created pressures for mechanisms to achieve uniformity in certain types of laws, particularly those dealing with commerce, consumer products, and transportation. In an attempt to create this uniformity without federal intervention and preemptive legislation, groups have organized to independently develop and promulgate model state laws.

The National Conference of Commissioners on Uniform State Laws (NCCUSL) in Chicago, Illinois, is an organization whose objective is to promote uniformity in the law among those states where uniformity is desirable and practicable. Each of the states appoints members to the NCCUSL. The Conference has drafted over 200 uniform laws on various subjects since its organization in 1892. Once these legislative models are drafted, the states may adopt them, modify them or choose not to adopt them. The range or subjects covered by NCCUSL model laws over the past years includes such things as commerce codes, divorce laws, gifts to minors, limited partnerships and many others. The achievement of uniformity among the 50 states is unpredictable, and the relative success of the Conference follows no pattern. In some cases, uniform acts have never been adopted by more than a handful of states; in other cases, over a period of 10 or 12 years, practically all of the states have adopted a particular version of a uniform act.

In August, 1979, the NCCUSL approved a model state law entitled the Uniform Metric System Procedures Act (UMSPA). The UMSPA is intended to supply a uniform structural mechanism for the 50 states to amend laws and regulations on a coordinated and timely basis in response to voluntary conversion activity. The Act is designed to preclude federal preemptive activity and to regulate conversion to the metric system of measurement initiated or facilitated by governmental authority. Furthermore, the Act regulates state and local officials in their response to increasing metric usage. The Uniform Metric System Procedures Act is supported by such groups as the National Conference on Weights and Measures which favor a state retention of jurisdiction over measurement. The American Bar Association is expected to consider endorsing the Act at its meeting in Chicago in February, 1980.

A number of independent organizations develop and promulgate uniform state codes addressing various subjects; for example, motor vehicle codes. These organizations have established change mechanisms for promulgating new or revised versions of codes throughout the states. Should these organizations choose to create a metric version of a model state law, it could be readily adopted by the 50 States and remove those deterrents dealing with a specific topic. Examples of the model code organizations that work with state governments include:

- National Conference of Weights and Measures—*Model Weights and Measures Law*
- National Committee on Uniform Traffic Laws and Ordinances—*Uniform Vehicle Code*
- National Geodetic Survey—*State Plane Conversion System Legislation*
- Building Officials and Code Administrators International—*Basic Building Codes*
- Council of American Building Officials—*Uniform Building Codes*
- Southern Building Code Congress—*Standard Building Codes*

### D. Coordinating Role of United States Metric Board

Public Law 94-168 established the United States Metric Board to coordinate the increasing use of the metric system in the United States. While the Board is not a structural mechanism in the true legal sense, it can create a process of coordination which could accomplish the same result. The Board can bring into national focus the changes to laws and regulations necessary to enable a metric conversion plan to be successfully implemented.

The United States Metric Board has been in existence for little over one year. The Members believe that focused metric coordination may serve as a viable alternative to Congress establishing

a new structural mechanism. At one of its first meetings, the Board adopted a resolution establishing, among its first priorities, the elimination of legal barriers to metrification. The Board has begun the process of coordination, working with available mechanisms within the federal government and with the states. The Members believe that any recommendation for a new mechanism would be premature until the Board has had an opportunity to develop *fully* its coordinating role with the available mechanisms.

## MEMBERS OF THE BOARD

Louis F. Polk  
Chairman

Sydney D. Andrews  
Carl Beck  
Paul Block, Jr.  
Francis R. Dugan  
Thomas A. Hannigan  
Frank Hartman  
Bruce P. Johnson  
Sandra Kenney

Andrew Kenopensky  
Henry Kroeze  
Joyce Miller  
Glenn Nishimura  
Dennis R. Smith  
Satenig S. St. Marie  
Roger E. Travis  
Adrian G. Weaver

\* \* \* \*

## SENIOR STAFF

Malcolm E. O'Hagan  
Executive Director

Stanley R. Parent  
Deputy Executive Director  
Director, Research, Coordination  
and Planning

Helen T. Stellman  
Director, Office of  
Administrative Services  
and Finance

John P. Donnelly  
Director, Office of Public  
Awareness and Education

Theodore S. Farfaglia  
General Counsel

\* \* \* \* \*

For Further Information  
regarding this report contact:

John Milo Bryant  
Assistant General Counsel  
United States Metric Board  
1815 North Lynn Street  
Suite 600  
Arlington, Virginia 22209  
(703) 235-1933

